

IN THE CLAIMS

Please amend the claims so that they read as follows:

LISTING THE CLAIMS:

1. (Currently Amended) A distributed directory management system for offering a retrieval service with respect to service objects stored in object repositories located in service spaces, respectively, said system comprising a service space centralized managing mechanism, service object managing mechanisms, ~~each provided~~ corresponding to a respective one of said service spaces ~~and the object repository located therein, respectively,~~ service space connection managing mechanisms ~~provided each~~ corresponding to a respective one of said service spaces, respectively, and service object retrieval managing mechanisms ~~provided each~~ corresponding to a respective one of said service spaces, respectively,

wherein said service space centralized managing mechanism collects mutual connection information of said service spaces from said service space connection managing mechanisms and manages the collected mutual connection information,

wherein each of said service object managing mechanisms manages ~~the object repository~~ corresponding ~~thereto one of said object repositories~~ and executes retrieval of a service object in said corresponding ~~one of said object repositories repository,~~

wherein each of said service space connection managing mechanisms implements message communication with said service object managing mechanisms to collect mutual connection information of ~~the corresponding one of said service spaces~~ and another of said service spaces, and manages the collected mutual connection information, and

wherein each of said service object retrieval managing mechanisms sends a retrieval message from a user to a corresponding one of said service object managing mechanisms to request retrieval from the object repository corresponding thereto of a one of the service objects stored therein said corresponding one of said object repositories, receives a result of the retrieval from said corresponding one of said service object managing mechanisms, analyzes the result of the retrieval, and produces a message to be sent to the user based on the analyzed result of the retrieval,

wherein each of said service object managing mechanisms sends a message indicative of the existence thereof, every time a state thereof is changed, to a corresponding one of said service space connection managing mechanisms, and

wherein each of said service space connection managing mechanisms receives said message from the corresponding one of said service object managing mechanisms to update mutual connection information between the service space corresponding to said corresponding one of said service object managing mechanisms and another of said service spaces.

2. (Canceled)

3. (Currently Amended) The distributed directory management system according to claim

† A distributed directory management system for offering a retrieval service with respect to service objects stored in object repositories located in service spaces, respectively, said system comprising a service space centralized managing mechanism, service object managing mechanisms, each corresponding to a respective one of said service spaces and the object

repository located therein, service space connection managing mechanisms each corresponding to a respective one of said service spaces, and service object retrieval managing mechanisms each corresponding to a respective one of said service spaces,

wherein said service space centralized managing mechanism collects mutual connection information of said service spaces from said service space connection managing mechanisms and manages the collected mutual connection information,

wherein each of said service object managing mechanisms manages the object repository corresponding thereto and executes retrieval of a service object in said corresponding object repository,

wherein each of said service space connection managing mechanisms implements message communication with said service object managing mechanisms to collect mutual connection information of the corresponding service spaces and another of said service spaces, and manages the collected mutual connection information,

wherein each of said service object retrieval managing mechanisms sends a retrieval message from a user to a corresponding one of said service object managing mechanisms to request retrieval from the object repository corresponding thereto of one of the service object stored therein, receives a result of the retrieval from said corresponding one of said service object managing mechanisms, analyzes the result of the retrieval, and produces a message to be sent to the user based on the analyzed result of the retrieval,

wherein each of said service object managing mechanisms periodically sends a message indicative of the existence thereof to a corresponding one of said service space connection managing mechanisms, and

wherein each of said service space connection managing mechanisms receives said message from ~~the~~ corresponding one of said service object managing mechanisms to update mutual connection information between ~~corresponding one of said the~~ service spaces ~~corresponding to said corresponding one of said service object managing mechanisms~~ and another of said service spaces.

4. (Original) The distributed directory management system according to claim 3, wherein each of said service object managing mechanisms uses a multi cast announcing function to send the message indicative of the existence thereof.

5. (Original) The distributed directory management system according to claim 1, wherein upon receiving the retrieval message from the user, ~~the~~ corresponding one of said service object retrieval managing mechanism[[s]] uses the mutual connection information managed by ~~corresponding one of said the~~ service space connection managing mechanism[[s]] ~~corresponding to the service space to which the service object retrieval managing mechanism corresponds,~~ so as to send said retrieval message to ~~corresponding one of said~~ service space[[s]] and to another of said service spaces for requesting the retrieval.

6. (Currently Amended) The distributed directory management system according to claim 1, further comprising directory managing authentication mechanisms, ~~each provided~~ corresponding to ~~a respective one of said service spaces and the object repository located therein;~~ respectively, wherein each of said directory managing authentication mechanisms has a function

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of issuing a ticket for using the retrieval service to a user and, when said ticket is submitted by the user, verifies the legitimacy of the ticket so as to allow said user to access to ~~corresponding one of said object repositories~~ the object repository to which the directory managing authentication mechanism corresponds.

7. (Currently Amended) The distributed directory management system according to claim 1, further comprising directory managing authentication mechanisms, ~~each provided corresponding to a respective one of said service spaces and the object repository located therein,~~ respectively, wherein each of said directory managing authentication mechanisms has a function of verifying the legitimacy of a digitally signed retrieval message of a user so as to allow said user to access to ~~corresponding one of said object repositories~~ the object repository to which the directory managing authentication mechanism corresponds.

8. (New) The distributed directory management system according to claim 3, wherein upon receiving the retrieval message from the user, the corresponding service object retrieval managing mechanism uses the mutual connection information managed by the service space connection managing mechanism corresponding to the service space to which the service object retrieval managing mechanism corresponds, so as to send said retrieval message to said service space and to another of said service spaces for requesting the retrieval.

9. (New) The distributed directory management system according to claim 3, further comprising directory managing authentication mechanisms, each corresponding to a respective

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one of said service spaces and the object repository located therein, wherein each of said directory managing authentication mechanisms has a function of issuing a ticket for using the retrieval service to a user and, when said ticket is submitted by the user, verifies the legitimacy of the ticket so as to allow said user to access the object repository to which the directory managing authentication mechanism corresponds.

10. (New) The distributed directory management system according to claim 3, further comprising directory managing authentication mechanisms, each corresponding to a respective one of said service spaces and the object repository located therein, wherein each of said directory managing authentication mechanisms has a function of verifying the legitimacy of a digitally signed retrieval message of a user so as to allow said user to access the object repository to which the directory managing authentication mechanism corresponds.